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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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20985	7590	10/05/2004	EXAMINER	
FISH & RICHARDSON, PC 12390 EL CAMINO REAL SAN DIEGO, CA 92130-2081			SWEARINGEN, JEFFREY R	
			ART UNIT	PAPER NUMBER
			2145	

DATE MAILED: 10/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/846,521	<b>Applicant(s)</b> MATHENY ET AL.	
	<b>Examiner</b> Jeffrey R. Swearingen	<b>Art Unit</b> 2143	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 30 April 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☐ Claim(s) \_\_\_\_\_ is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☒ Claim(s) 18, 25, 27 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Information Disclosure Statement*

1. The information disclosure statement filed 30 April 2001 fails to comply with 37 CFR 1.98(a)(1), which requires a list of all patents, publications, or other information submitted for consideration by the Office. It has been placed in the application file, but the information referred to therein has not been considered.

### *Specification*

2. The disclosure is objected to because of the following informalities:  
Paragraph [0002], line 4 has the grammatical phrase "as well provide information...". Examiner recommends Applicant correct said phrase to "as well as provide information..."  
Paragraph [0011], line 17 has the grammatical phrase "SNMP-compliant device include an SNMP agent". Examiner recommends Applicant correct said phrase to "SNMP-compliant device includes an SNMP agent."  
Appropriate correction is required.

### *Claim Objections*

3. Claim 18 is objected to because of the following informalities: The grammatical phrase "instructions that cause the machine to calling said two or..." is confusing because of a grammatical error with "calling". Appropriate correction is required.
4. Claim 25 is objected to because of the following informalities: Line 4 of claim 25 refers to "two or more network device", which is improper use of a singular noun in plural form. Examiner recommends Applicant correct said phrase to "two or more network devices." Appropriate correction is required.
5. Claim 27 is objected to because of the following informalities: The grammatical phrase "collect and aggregating data" contains improper verb usage. Examiner suggests to Applicant the substitute phrase "collect and aggregate data". Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1, 11, 12, 16, 26, 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The aforementioned claims refer to a "discovery document." The American Heritage College Dictionary, fourth edition, states that a document can include among other things a written or printed paper, a recording or a photograph. A document for the purposes of aforementioned claims is not clearly defined, and is therefore considered indefinite. Examiner interprets document as a software file for the purposes of prosecution and claims are considered with this interpretation in mind.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-5, 9-20, 24-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barroux (U.S. Patent No. 5,923,850), in view of Feridun et al. (U.S. Patent No. 6,336,139) and Libert et al. (U.S. Patent No. 6,574,655).
10. Pertaining to claim 1, Barroux discloses:

receiving discovery data collected from a network device by two or more discovery agents; [Barroux, column 3, lines 42-46, various TCP/IP services and remote execution of commonly installed procedures are considered discovery agents by the office and survey

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information about nodes of [the] network is considered discovery data by the office.] Barroux fails to disclose aggregating said discovery data; coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data entries; and removing all but one of the duplicate data entries from the discovery document.

Feridun discloses aggregating said discovery data [column 12, lines 37-40]. Feridun fails to disclose coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data entries; and removing all but one of the duplicate data entries from the discovery document.

Libert teaches coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data events [column 6, lines 64-66 teach putting data from events into a software "document". Column 8, lines 21-23 show that a Universal Resource Name (URN, which Libert teaches as describing an asset. An asset in this context is considered a node on a computer network previously discovered by a discovery agent.); and removing all but one of the duplicate data events from the discovery document [column 12, lines 58-61 disclose the ability to delete from an "asset management system" (discovery document) material that is no longer needed (all but one of the duplicate data entries)].

Motivation exists to combine Feridun with Barroux. Barroux deals with collecting discovery data and checking for updates, which can be considered events. Feridun deals with correlating events and aggregating said data to give additional information about the events that were checked by the previous agent. Combining Barroux and Feridun would enable discovery data to be further statistically analyzed than is possible with just the use of a discovery agent.

Motivation further exists to combine Libert with Barroux and Feridun. Libert deals with managing data that has been collected by network agents. Barroux and Feridun deal with network agents that collect and analyze data about the computer network in question. Adding Libert to Barroux and Feridun allows data cataloguing and manipulation of the computer network discovery and event data.

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It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system.

11. Pertaining to claim 2, Barroux, Feridun and Libert are applied as in claim 1. Barroux and Feridun fail to disclose an agent directory.

Libert discloses an agent system knowledge base called an Advertise System Knowledge system agent, which contains information registered with it by each agent that provides services in the Agent Domain (agent directory, column 8, lines 51-55).

Motivation exists to use an agent directory with the Barroux, Feridun and Libert combination to allow the system to know which agents it has and what data collection capabilities each agent has. When the network management system needs to collect a certain type of data, it will be able then to select the appropriate agent.

It is obvious to one of ordinary skill in the networking art at the time of the invention to use Libert's agent directory with the Barroux, Feridun and Libert combination.

12. Pertaining to claim 3, Barroux, Feridun and Libert are applied as in claim 2. Feridun and Libert fail to disclose calling two or more discovery agents.

Barroux further discloses receiving discovery data comprises calling said two or more discovery agents from the agent directory. [Barroux, column 3, lines 64-67 shows an administrative database that defines discovery tasks (agents). Lines 41-52 show the use of SNMP probes and RPC agents, which are both considered discovery agents. Column 4, lines 54-60 teach scheduling agents to probe the network. Because agents can be scheduled and both SNMP and RPC agents are described as two types of agents with different abilities used by the system to probe the network, office interprets this as calling two or more discovery agents.].

Motivation exists for Barroux's calling two discovery agents to be combined with the Barroux, Feridun and Libert combination of claim 1. Using two different discovery agents allows

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different types of data to be collected, which enables monitoring of different aspects of the network.

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system utilizing two or more discovery agents.

13. Pertaining to claim 4, Barroux, Feridun and Libert are applied as in claim 2. Barroux and Libert fail to disclose calling two or more aggregating agents.

Feridun discloses calling two or more aggregating agents. [Column 11, lines 40-41 state that a correlation rule plays within or in association with a software agent, which Examiner interprets as a software agent can execute a correlation rule. Column 9, lines 2-4 state that the correlation engine has a set of correlation rules. Because more than one rule is present, more than one agent must be present.]

Motivation exists to call two or more aggregating agents. Each agent is a low level agent [column 9, lines 19-20], and thus because each is more simplistic than a complex aggregating agent will execute faster [column 9, lines 15-22].

It would have been obvious to one of ordinary skill in the networking art at the time of the invention to call more than one aggregating agent for the Barroux/Feridun/Libert combination to speed up calculations performed upon the data.

14. Pertaining to claim 5, Barroux, Feridun and Libert are applied as in claim 1. Barroux and Feridun fail to disclose the use of XML files for an agent directory.

Libert discloses the use of XML to describe agents that are available to the system (column 6, lines 58-61).

Motivation exists to use XML files to list the agents available to the system because it is a standard language which allows software to be easily developed which parses XML documents (column 6, line 47 – column 7, line 3).



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It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system with XML capability.

15. Pertaining to claim 9, Barroux, Feridun and Libert are applied as in claim 1. Barroux and Feridun fail to disclose the use of XML files in the system.

Libert discloses the use of XML to create a software document containing data about the system (column 4, lines 8-24).

Motivation exists to use XML files to list the nodes available to the system because it is a standard language, which allows software to be easily developed which parses XML documents (column 6, line 47 – column 7, line 3).

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system with XML capability.

16. Pertaining to claim 10, Barroux, Feridun and Libert are applied as in claim 1. Feridun and Libert fail to disclose receiving discovery data from two or more agents.

Barroux discloses the use of SNMP and RPC agents. [Barroux, column 3, lines 64-67 shows an administrative database that defines discovery tasks (agents). Lines 41-52 show the use of SNMP probes and RPC agents, which are both considered discovery agents. Column 4, lines 54-60 teach scheduling agents to probe the network. Because agents can be scheduled and both SNMP and RPC agents are described as two types of agents with different abilities used by the system to probe the network, office interprets this as using two or more discovery agents.]

Motivation exists for Barroux's calling two discovery agents to be combined with the Barroux, Feridun and Libert combination of claim 1. Using two different discovery agents allows different types of data to be collected, which enables monitoring of different aspects of the network.

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It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system utilizing two or more discovery agents.

17. Pertaining to claim 11, Barroux, Feridun and Libert are applied as in claim 10. Feridun and Libert fail to disclose storing the discovery document in a discovery database; and generating a key for each discovered network device in the discovery document.

Barroux teaches use of a discovery database [Figure 7A] with a unique key for each discovered network device [Figure 7A, item 704].

Motivation exists for a database with a unique key to be used by Barroux, Feridun and Libert so that data collected by the system can be easily tracked and sorted [Barroux, column 8, lines 57-59].

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system utilizing a database to store collected data.

18. Pertaining to claim 12, Barroux discloses performing a first discovery operation [column 3, lines 42-46]; collecting data from a first plurality of network devices with said first plurality of agents [column 3, lines 42-46], and performing a second discovery operation with a second plurality of agents including said first plurality of agents and said additional agent [column 4, lines 15-19 show a task scheduler (Figure 3, item 302) that interfaces with a Process Table (Figure 3, item 304, agent directory) to send out probes (agents) to the network. The new agent would be present in the "agent directory" so the task scheduler would be able to send it out in a future discovery operation with the first group of agents. The task scheduler does send out agents for a repeated probe of the network (second discovery option, column 4, lines 4-6.) Barroux fails to disclose aggregating data, registering a first plurality of agents, coalescing data in a discovery document, and registering a second agent.

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Feridun discloses aggregating said discovery data [column 12, lines 37-40]. Feridun fails to disclose registering a plurality of agents, coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data entries; and registering a second agent.

Libert discloses registering a first plurality of agents [Libert discloses an agent system knowledge base called an Advertise System Knowledge (ASK) system agent, which contains information registered with it by each agent that provides services in the Agent Domain (agent directory, column 8, lines 51-55)]; coalescing said data in a discovery document [Libert teaches coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data events [column 6, lines 64-66 teach putting data from events into a software "document". Column 8, lines 21-23 show that a Universal Resource Name (URN, which Libert teaches as describing an asset. An asset in this context is considered a node on a computer network previously discovered by a discovery agent.]; and registering a second agent [Libert as previously applied to claim 12. The registration of a second agent is irrelevant. The ASK agent provides for "dynamic configuration of agents in the system", which Examiner reads as continuously detecting the presence of agents in the system. This would include the registration of any agents subsequent to the first plurality of agents.].

Motivation exists to combine Feridun with Barroux. Barroux deals with collecting discovery data and checking for updates, which can be considered events. Feridun deals with correlating events and aggregating said data to give additional information about the events that were checked by the previous agent. Combining Barroux and Feridun would enable discovery data to be further statistically analyzed than is possible with just the use of a discovery agent.

Motivation further exists to combine Libert with Barroux and Feridun. Libert deals with managing data that has been collected by network agents. Barroux and Feridun deal with network agents that collect and analyze data about the computer network in question. Adding Libert to Barroux and Feridun allows data cataloguing and manipulation of the computer network discovery and event data.

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It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system.

19. Pertaining to claim 13, Barroux, Feridun and Libert are applied as in claim 12. Feridun and Libert fail to disclose using a plurality of discovery agents. Barroux and Libert fail to disclose using a plurality of aggregator agents.

Barroux further discloses using a plurality of discovery agents. [Barroux, column 3, lines 64-67 shows an administrative database that defines discovery tasks (agents). Lines 41-52 show the use of SNMP probes and RPC agents, which are both considered discovery agents. Column 4, lines 54-60 teach scheduling agents to probe the network. Because agents can be scheduled and both SNMP and RPC agents are described as two types of agents with different abilities used by the system to probe the network, office interprets this as calling two or more discovery agents.]

Feridun further discloses using a plurality of aggregator agents. [Column 11, lines 40-41 state that a correlation rule plays within or in association with a software agent, which Examiner interprets as a software agent can execute a correlation rule. Column 9, lines 2-4 state that the correlation engine has a set of correlation rules. Because more than one rule is present, more than one agent must be present.]

Motivation exists to use both a plurality of discovery agents and a plurality of aggregator agents. Using two different discovery agents allows different types of data to be collected, which enables monitoring of different aspects of the network. Each aggregator agent is a low level agent [Feridun, column 9, lines 19-20], and thus because each is more simplistic than a complex aggregator agent will execute faster [Feridun, column 9, lines 15-22]. The aggregator agents are used to calculate further data about the data collected by the discovery agents, as previously addressed in claim 12. Because there is reason to have a plurality of discovery agents and because there is further reason to have a plurality of aggregator agents, it would be obvious to

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one of ordinary skill in the networking art at the time of the invention to use both a plurality of discovery agents and a plurality of aggregator agents to collect network data.

20. Pertaining to claim 14, Barroux, Feridun and Libert are applied as in claim 12. Barroux and Feridun fail to disclose registering a second agent.

Libert discloses registering a second agent [Libert as previously applied to claim 12. The registration of a second agent is irrelevant. The ASK agent provides for "dynamic configuration of agents in the system", which Examiner reads as continuously detecting the presence of agents in the system. This would include the registration of any agents subsequent to the first plurality of agents.].

The motivation to combine the abilities and limitations of Libert with Barroux and Feridun has been previously discussed in claim 12. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to add additional agents to the Barroux/Feridun/Libert combination to allow for collection of new and different types of network data.

21. Pertaining to claim 15, Barroux, Feridun and Libert are applied as in claim 14. Barroux and Feridun fail to disclose the use of XML files for an agent directory.

Libert discloses the use of XML to describe agents that are available to the system (column 6, lines 58-61).

Motivation exists to use XML files to list the agents available to the system because it is a standard language which allows software to be easily developed which parses XML documents (column 6, line 47 – column 7, line 3).

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system with XML capability.

22. Pertaining to claim 16, Barroux discloses:

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receiving discovery data collected from a network device by two or more discovery agents; [Barroux, column 3, lines 42-46, various TCP/IP services and remote execution of commonly installed procedures are considered discovery agents by the office and survey information about nodes of [the] network is considered discovery data by the office.] Barroux fails to disclose aggregating said discovery data; coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data entries; and removing all but one of the duplicate data entries from the discovery document.

Feridun discloses aggregating said discovery data [column 12, lines 37-40]. Feridun fails to disclose coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data entries; and removing all but one of the duplicate data entries from the discovery document.

Libert teaches coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data events [column 6, lines 64-66 teach putting data from events into a software "document". Column 8, lines 21-23 show that a Universal Resource Name (URN, which Libert teaches as describing an asset. An asset in this context is considered a node on a computer network previously discovered by a discovery agent.]; and removing all but one of the duplicate data events from the discovery document [column 12, lines 58-61 disclose the ability to delete from an "asset management system" (discovery document) material that is no longer needed (all but one of the duplicate data entries)].

Motivation exists to combine Feridun with Barroux. Barroux deals with collecting discovery data and checking for updates, which can be considered events. Feridun deals with correlating events and aggregating said data to give additional information about the events that were checked by the previous agent. Combining Barroux and Feridun would enable discovery data to be further statistically analyzed than is possible with just the use of a discovery agent.

Motivation further exists to combine Libert with Barroux and Feridun. Libert deals with managing data that has been collected by network agents. Barroux and Feridun deal with network agents that collect and analyze data about the computer network in question. Adding

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Libert to Barroux and Feridun allows data cataloguing and manipulation of the computer network discovery and event data.

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system.

23. Pertaining to claim 17, Barroux, Feridun and Libert are applied as in claim 16. Barroux and Feridun fail to disclose an agent directory.

Libert discloses an agent system knowledge base called an Advertise System Knowledge system agent, which contains information registered with it by each agent that provides services in the Agent Domain (agent directory, column 8, lines 51-55).

Motivation exists to use an agent directory with the Barroux, Feridun and Libert combination to allow the system to know which agents it has and what data collection capabilities each agent has. When the network management system needs to collect a certain type of data, it will be able then to select the appropriate agent.

It is obvious to one of ordinary skill in the networking art at the time of the invention to use Libert's agent directory with the Barroux, Feridun and Libert combination.

24. Pertaining to claim 18, Barroux, Feridun and Libert are applied as in claim 17. Feridun and Libert fail to disclose calling two or more discovery agents.

Barroux further discloses receiving discovery data comprises calling said two or more discovery agents from the agent directory. [Barroux, column 3, lines 64-67 shows an administrative database that defines discovery tasks (agents). Lines 41-52 show the use of SNMP probes and RPC agents, which are both considered discovery agents. Column 4, lines 54-60 teach scheduling agents to probe the network. Because agents can be scheduled and both SNMP and RPC agents are described as two types of agents with different abilities used by the system to probe the network, office interprets this as calling two or more discovery agents.].

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Motivation exists for Barroux's calling two discovery agents to be combined with the Barroux, Feridun and Libert combination of claim 1. Using two different discovery agents allows different types of data to be collected, which enables monitoring of different aspects of the network.

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system utilizing two or more discovery agents.

25. Pertaining to claim 19, Barroux, Feridun and Libert are applied as in claim 17. Barroux and Libert fail to disclose calling two or more aggregating agents.

Feridun discloses calling two or more aggregating agents. [Column 11, lines 40-41 state that a correlation rule plays within or in association with a software agent, which Examiner interprets as a software agent can execute a correlation rule. Column 9, lines 2-4 state that the correlation engine has a set of correlation rules. Because more than one rule is present, more than one agent must be present.]

Motivation exists to call two or more aggregating agents. Each agent is a low level agent [column 9, lines 19-20], and thus because each is more simplistic than a complex aggregating agent will execute faster [column 9, lines 15-22].

It would have been obvious to one of ordinary skill in the networking art at the time of the invention to call more than one aggregating agent for the Barroux/Feridun/Libert combination to speed up calculations performed upon the data.

26. Pertaining to claim 20, Barroux, Feridun and Libert are applied as in claim 16. Barroux and Feridun fail to disclose the use of XML files for an agent directory.

Libert discloses the use of XML to describe agents that are available to the system (column 6, lines 58-61).



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Motivation exists to use XML files to list the agents available to the system because it is a standard language, which allows software to be easily developed which parses XML documents (column 6, line 47 – column 7, line 3).

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system with XML capability.

27. Pertaining to claim 24, Barroux, Feridun and Libert are applied as in claim 16. Barroux and Feridun fail to disclose the use of XML files in the system.

Libert discloses the use of XML to create a software document containing data about the system (column 4, lines 8-24).

Motivation exists to use XML files to list the nodes available to the system because it is a standard language, which allows software to be easily developed which parses XML documents (column 6, line 47 – column 7, line 3).

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system with XML capability.

28. Pertaining to claim 25, Barroux, Feridun and Libert are applied as in claim 16. Feridun and Libert fail to disclose receiving discovery data from two or more agents.

Barroux discloses the use of SNMP and RPC agents. [Barroux, column 3, lines 64-67 shows an administrative database that defines discovery tasks (agents). Lines 41-52 show the use of SNMP probes and RPC agents, which are both considered discovery agents. Column 4, lines 54-60 teach scheduling agents to probe the network. Because agents can be scheduled and both SNMP and RPC agents are described as two types of agents with different abilities used by the system to probe the network, office interprets this as using two or more discovery agents.]

Motivation exists for Barroux's calling two discovery agents to be combined with the Barroux, Feridun and Libert combination of claim 16. Using two different discovery agents allows

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different types of data to be collected, which enables monitoring of different aspects of the network.

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system utilizing two or more discovery agents.

29. Pertaining to claim 26, Barroux, Feridun and Libert are applied as in claim 25. Feridun and Libert fail to disclose storing the discovery document in a discovery database; and generating a key for each discovered network device in the discovery document.

Barroux teaches use of a discovery database [Figure 7A] with a unique key for each discovered network device [Figure 7A, item 704].

Motivation exists for a database with a unique key to be used by Barroux, Feridun and Libert so that data collected by the system can be easily tracked and sorted [Barroux, column 8, lines 57-59].

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system utilizing a database to store collected data.

30. Pertaining to claim 27, Barroux discloses performing a first discovery operation [column 3, lines 42-46]; collecting data from a first plurality of network devices with said first plurality of agents [column 3, lines 42-46], and performing a second discovery operation with a second plurality of agents including said first plurality of agents and said additional agent [column 4, lines 15-19 show a task scheduler (Figure 3, item 302) that interfaces with a Process Table (Figure 3, item 304, agent directory) to send out probes (agents) to the network. The new agent would be present in the "agent directory" so the task scheduler would be able to send it out in a future discovery operation with the first group of agents. The task scheduler does send out agents for a repeated probe of the network (second discovery option, column 4, lines 4-6.) Barroux fails to

disclose aggregating data, registering a first plurality of agents, coalescing data in a discovery document, and registering a second agent.

Feridun discloses aggregating said discovery data [column 12, lines 37-40]. Feridun fails to disclose registering a plurality of agents, coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data entries; and registering a second agent.

Libert discloses registering a first plurality of agents [Libert discloses an agent system knowledge base called an Advertise System Knowledge (ASK) system agent, which contains information registered with it by each agent that provides services in the Agent Domain (agent directory, column 8, lines 51-55)]; coalescing said data in a discovery document [Libert teaches coalescing the discovery data in a discovery document, said discovery data including two or more duplicate data events [column 6, lines 64-66 teach putting data from events into a software "document". Column 8, lines 21-23 show that a Universal Resource Name (URN, which Libert teaches as describing an asset. An asset in this context is considered a node on a computer network previously discovered by a discovery agent.]; and registering a second agent [Libert as previously applied to claim 27. The registration of a second agent is irrelevant. The ASK agent provides for "dynamic configuration of agents in the system", which Examiner reads as continuously detecting the presence of agents in the system. This would include the registration of any agents subsequent to the first plurality of agents.].

Motivation exists to combine Feridun with Barroux. Barroux deals with collecting discovery data and checking for updates, which can be considered events. Feridun deals with correlating events and aggregating said data to give additional information about the events that were checked by the previous agent. Combining Barroux and Feridun would enable discovery data to be further statistically analyzed than is possible with just the use of a discovery agent.

Motivation further exists to combine Libert with Barroux and Feridun. Libert deals with managing data that has been collected by network agents. Barroux and Feridun deal with network agents that collect and analyze data about the computer network in question. Adding

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Libert to Barroux and Feridun allows data cataloguing and manipulation of the computer network discovery and event data.

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system.

31. Pertaining to claim 28, Barroux, Feridun and Libert are applied as in claim 27. Feridun and Libert fail to disclose using a plurality of discovery agents.

Barroux further discloses using a plurality of discovery agents. [Barroux, column 3, lines 64-67 shows an administrative database that defines discovery tasks (agents). Lines 41-52 show the use of SNMP probes and RPC agents, which are both considered discovery agents. Column 4, lines 54-60 teach scheduling agents to probe the network. Because agents can be scheduled and both SNMP and RPC agents are described as two types of agents with different abilities used by the system to probe the network, office interprets this as calling two or more discovery agents.] Feridun further discloses using a plurality of aggregator agents. [Column 11, lines 40-41 state that a correlation rule plays within or in association with a software agent, which Examiner interprets as a software agent can execute a correlation rule. Column 9, lines 2-4 state that the correlation engine has a set of correlation rules. Because more than one rule is present, more than one agent must be present.]

Motivation exists to use both a plurality of discovery agents and a plurality of aggregator agents. Using two different discovery agents allows different types of data to be collected, which enables monitoring of different aspects of the network. Each aggregator agent is a low level agent [Feridun, column 9, lines 19-20], and thus because each is more simplistic than a complex aggregator agent will execute faster [Feridun, column 9, lines 15-22]. The aggregator agents are used to calculate further data about the data collected by the discovery agents, as previously addressed in claim 27. Because there is reason to have a plurality of discovery agents and because there is further reason to have a plurality of aggregator agents, it would be obvious to

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one of ordinary skill in the networking art at the time of the invention to use both a plurality of discovery agents and a plurality of aggregator agents to collect network data.

32. Pertaining to claim 29, Barroux, Feridun and Libert are applied as in claim 28. Barroux and Feridun fail to disclose registering a second agent.

Libert discloses registering a second agent [Libert as previously applied to claim 28. The registration of a second agent is irrelevant. The ASK agent provides for "dynamic configuration of agents in the system", which Examiner reads as continuously detecting the presence of agents in the system. This would include the registration of any agents subsequent to the first plurality of agents.].

The motivation to combine the abilities and limitations of Libert with Barroux and Feridun has been previously discussed in claim 28. It would have been obvious to one of ordinary skill in the networking art at the time of the invention to add additional agents to the Barroux/Feridun/Libert combination to allow for collection of new and different types of network data.

33. Pertaining to claim 30, Barroux, Feridun and Libert are applied as in claim 29. Barroux and Feridun fail to disclose the use of XML files for an agent file.

Libert discloses the use of XML to describe agents that are available to the system (column 6, lines 58-61).

Motivation exists to use XML files to list the agents available to the system because it is a standard language which allows software to be easily developed which parses XML documents (column 6, line 47 – column 7, line 3).

It is obvious to one of ordinary skill in the networking art at the time of the invention to combine Barroux with Feridun and Libert to form a discovery network system with XML capability.

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34. Claims 6-8, 21-23 rejected under 35 U.S.C. 103(a) as being unpatentable over Barroux, Feridun and Libert as applied to claims 2 and 16 above, and further in view of Fletcher et al. (WO 98/26541).
35. Pertaining to claim 6, Barroux, Feridun and Libert are applied as in claim 2. Barroux further discloses removing all but the first duplicate data entry. [Barroux, column 10, line 62 – column 11, line 9. It is Examiner's position that updating a record if no information has changed accomplishes the same function as entering two records and deleting one later.] Barroux, Feridun, and Libert fail to disclose identifying two or more agents responsible for generating the two or more duplicate data entries, each agent having a priority value; comparing the priority values of the two or more agents; and identifying a first agent having a highest priority, said first agent responsible for generating a first duplicate data entry in the two or more duplicate data entries.

Fletcher discloses identifying two or more agents responsible for generating the two or more duplicate data entries, each agent having a priority value; comparing the priority values of the two or more agents; and identifying a first agent having a highest priority, said first agent responsible for generating a first duplicate data entry in the two or more duplicate data entries. [Page 21, lines 29-31 discloses elimination of duplicate reports from agents by assigning one agent a higher priority.]

When using multiple agents to collect data on the Internet, duplicate data will eventually occur. Computers must have instructions on how to deal with multiple data to eliminate processing errors. It is imperative to establish rules on which sets of data to use. Multiple agents would come in useful in a network discovery system as suggested by the combination of Barroux, Feridun and Libert. Assigning a priority to multiple agents would be a reasonable rule to establish in case duplicate data is collected. Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to add Fletcher's agent priority to the combination of Barroux, Feridun

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and Libert to create a network discovery system.

36. Pertaining to claim 7, Barroux, Feridun, Libert and Fletcher are applied as in claim 6. Feridun, Libert and Fletcher fail to disclose using two or more discovery agents.

Barroux further discloses using two or more discovery agents. [Barroux, column 3, lines 64-67 shows an administrative database that defines discovery tasks (agents). Lines 41-52 show the use of SNMP probes and RPC agents, which are both considered discovery agents. Column 4, lines 54-60 teach scheduling agents to probe the network. Because agents can be scheduled and both SNMP and RPC agents are described as two types of agents with different abilities used by the system to probe the network, office interprets this as calling two or more discovery agents.]

A network discovery system relies on network agents to collect information about the various nodes on the network. Using two different discovery agents allows different types of data to be collected, which enables monitoring of different aspects of the network. Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to use multiple discovery agents with the combination of Barroux, Feridun and Libert to create a network discovery system.

37. Pertaining to claim 8, Barroux, Feridun, Libert and Fletcher are applied as in claim 6. Barroux, Libert and Fletcher fail to disclose using two or more aggregator agents.

Feridun further discloses using a plurality of aggregator agents. [Column 11, lines 40-41 state that a correlation rule plays within or in association with a software agent, which Examiner interprets as a software agent can execute a correlation rule. Column 9, lines 2-4 state that the correlation engine has a set of correlation rules. Because more than one rule is present, more than one agent must be present.]

A network discovery system relies on network agents to collect information about the various nodes on the network. Aggregator agents work by processing data taken from a discovery agent. Each aggregator agent is a low level agent [Feridun, column 9, lines 19-20],

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and thus because each is more simplistic than a complex aggregator agent will execute faster [Feridun, column 9, lines 15-22]. The aggregator agents are used to calculate further data about the data collected by the discovery agents, as previously addressed in claim 12. For purposes of speeding up calculation of the data collected by discovery agents, it would be obvious to one of ordinary skill in the art at the time of the invention to use multiple aggregator agents with the combination of Barroux, Feridun and Libert to create a network discovery system.

38. Pertaining to claim 21, Barroux, Feridun and Libert are applied as in claim 16. Barroux further discloses removing all but the first duplicate data entry. [Barroux, column 10, line 62 – column 11, line 9. It is Examiner's position that updating a record if no information has changed accomplishes the same function as entering two records and deleting one later.] Barroux, Feridun, and Libert fail to disclose identifying two or more agents responsible for generating the two or more duplicate data entries, each agent having a priority value; comparing the priority values of the two or more agents; and identifying a first agent having a highest priority, said first agent responsible for generating a first duplicate data entry in the two or more duplicate data entries.

Fletcher discloses identifying two or more agents responsible for generating the two or more duplicate data entries, each agent having a priority value; comparing the priority values of the two or more agents; and identifying a first agent having a highest priority, said first agent responsible for generating a first duplicate data entry in the two or more duplicate data entries. [Page 21, lines 29-31 discloses elimination of duplicate reports from agents by assigning one agent a higher priority.]

When using multiple agents to collect data on the Internet, duplicate data will eventually occur. Computers must have instructions on how to deal with multiple data to eliminate



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processing errors. It is imperative to establish rules on which sets of data to use. Multiple agents would come in useful in a network discovery system as suggested by the combination of Barroux, Feridun and Libert. Assigning a priority to multiple agents would be a reasonable rule to establish in case duplicate data is collected. Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to add Fletcher's agent priority to the combination of Barroux, Feridun and Libert to create a network discovery system.

39. Pertaining to claim 22, Barroux, Feridun, Libert and Fletcher are applied as in claim 21. Feridun, Libert and Fletcher fail to disclose using two or more discovery agents.

Barroux further discloses using two or more discovery agents. [Barroux, column 3, lines 64-67 shows an administrative database that defines discovery tasks (agents). Lines 41-52 show the use of SNMP probes and RPC agents, which are both considered discovery agents. Column 4, lines 54-60 teach scheduling agents to probe the network. Because agents can be scheduled and both SNMP and RPC agents are described as two types of agents with different abilities used by the system to probe the network, office interprets this as calling two or more discovery agents.]

A network discovery system relies on network agents to collect information about the various nodes on the network. Using two different discovery agents allows different types of data to be collected, which enables monitoring of different aspects of the network. Therefore it would be obvious to one of ordinary skill in the art at the time of the invention to use multiple discovery agents with the combination of Barroux, Feridun and Libert to create a network discovery system.

40. Pertaining to claim 23, Barroux, Feridun, Libert and Fletcher are applied as in claim 21. Barroux, Libert and Fletcher fail to disclose using two or more aggregator agents.

Feridun further discloses using a plurality of aggregator agents. [Column 11, lines 40-41 state that a correlation rule plays within or in association with a software agent, which Examiner interprets as a software agent can execute a correlation rule. Column 9, lines 2-4 state that the

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correlation engine has a set of correlation rules. Because more than one rule is present, more than one agent must be present.]

A network discovery system relies on network agents to collect information about the various nodes on the network. Aggregator agents work by processing data taken from a discovery agent. Each aggregator agent is a low level agent [Feridun, column 9, lines 19-20], and thus because each is more simplistic than a complex aggregator agent will execute faster [Feridun, column 9, lines 15-22]. The aggregator agents are used to calculate further data about the data collected by the discovery agents, as previously addressed in claim 12. For purposes of speeding up calculation of the data collected by discovery agents, it would be obvious to one of ordinary skill in the art at the time of the invention to use multiple aggregator agents with the combination of Barroux, Feridun and Libert to create a network discovery system.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey R. Swearingen whose telephone number is (571) 272-3921. The examiner can normally be reached on M-F 8:30-5:00.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wiley can be reached on (571) 272-3923. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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